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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/580,559	05/30/2000	Motoo Nishihara	Q59423	1590

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EXAMINER
YAO, KWANG BIN

ART UNIT	PAPER NUMBER
2667	8

DATE MAILED: 05/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO 90C (Rev 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/580,559	NISHIHARA, MOTOO
	Examiner	Art Unit
	Kwang B. Yao	2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 March 2004*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15 and 17-22* is/are rejected.

7)☒ Claim(s) *16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☐ All b)☐ Some * c)☐ None of:

  1.☐ Certified copies of the priority documents have been received.

  2.☐ Certified copies of the priority documents have been received in Application No. _____.

  3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
  application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999

(AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002

do not apply when the reference is a U.S. patent resulting directly or indirectly from an

international application filed before November 29, 2000. Therefore, the prior art date of the

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA

35 U.S.C. 102(e)).

2.   Claims 1-3, 5-9, 12, 15, 17, 18-22 are rejected under 35 U.S.C. 102(e) as being

anticipated by Vargo et al. (US 6,477,164).

Vargo et al. discloses a system for real-time data and voice transmission comprising the

following features: regarding claim 1, depicted in Fig. 1, causing a transmission-source access

network (114) to generate a packet to be transferred to a destination access network (116) and

transmit the packet to a transmission-source packet transfer apparatus (124) connected to the

transmission-source access network (114); causing the transmission-source packet transfer

apparatus (124) to convert the packet transmitted from the transmission-source access network

(114) into a superpacket (Fig. 4) having a length n times, n is an integer of not less than 2, larger

than a fixed-length cell, the superpacket serving as a switching unit of relay means arranged on a

network, and send the superpacket to the network (132); causing the network to relay the

superpacket (Fig. 4) using the relay means and transfer the superpacket to a destination packet

transfer apparatus (126) connected to the destination access network (116); and causing the

destination packet transfer apparatus (126) to reassemble the packet generated by the

transmission-source access network (140) on the basis of the superpacket transferred from the

network (132) and send the packet to the destination access network (116); regarding claim 2,

causing the transmission-source packet transfer apparatus (124) to individually store (Fig. 6, 602)

the transmitted packets by their respective destination packet transfer apparatuses (126), form the

superpacket for each destination packet transfer apparatus (126), and send the superpacket to the

network (132), and causing the destination packet transfer apparatus (126) to individually store

the superpackets transferred from the network by their respective transmission-source packet

transfer apparatuses (124) and reassemble the packet for each transmission-source packet

transfer apparatus (124); regarding claim 3, causing the transmission-source packet transfer

apparatus (124) to detect for each destination packet transfer apparatus (126) that the superpacket

is not formed for a first time-out time (column 6, lines 35-52), and if a packet is stored in

association with the destination packet transfer apparatus and the superpacket is not formed for

the first time-out time, causing the transmission source packet transfer apparatus to form the

superpacket from the packet and send the superpacket (Fig. 4) to the network; regarding claim 5,

when the packet transmitted from the transmission-source access network (114) crosses a

plurality of superpackets, causing the transmission-source packet transfer apparatus (124) to

divisionally send the packet to the network using the plurality of superpackets, and when the

packet is transferred from the network in the plurality of superpackets, causing the destination

packet transfer apparatus (126) to reassemble the original packet generated by the

transmission-source access network (114) by connecting the plurality of superpackets, and send

the packet to the destination access network (126); regarding claim 6, causing the

transmission-source packet transfer apparatus to store (Fig. 6, 602), as a transmission-source

address and destination address in a header of the superpacket (Fig. 4), unique network addresses

defined only in the network and assigned to the transmission-source packet transfer apparatus

and the destination packet transfer apparatus, respectively, and send the superpacket to the

network, and causing each relay means in the network to look up (Fig. 6, 606, and Fig. 7) the

header of the transferred superpacket to specify a relay destination of the superpacket in

accordance with the network address assigned to the destination packet transfer apparatus and

transfer the superpacket to the destination packet transfer apparatus; regarding claim 7, forming

means (Fig. 6, 604, and Fig. 8) for converting the packet into a superpacket having a length n

times, n is an integer of not less than 2, larger than a fixed-length cell, the superpacket serving as

a switching unit of the relay means, and sending the superpacket to the network (132); and

reassembler means (Fig. 9, 916, 918) for extracting the packet from the superpacket (Fig. 4) sent

from the network and sending the packet (Fig. 9, 920) to the access network; regarding claim 8,

wherein the forming means comprises first storage means (Fig. 6, 602) having queues for storing

the packets wherein the packets are stored by their respective packet transfer destination

apparatus in the queues, and wherein the forming means detects (Fig. 6, 604) the numbers of the

stored packets, and when the number of stored packets is sufficient for forming the superpacket,

and forming means extracts (Fig. 6, 604) the packets from the queue to form the superpacket;

regarding claim 9, wherein the forming means comprises, for each queue on the first storage

means (Fig. 6, 602), first time count means for starting time counting every time the superpacket

is formed and detecting an elapse of a first time-out time from the time count start time, and

when the elapse of the first time-out time is detected, forms the superpacket from the packets

stored in the queue (column 6, lines 35-52); regarding claim 12, the reassembler means (Fig. 6,

608) comprises second storage means having queues (Fig. 6, 608) for storing the superpackets,

wherein the superpackets are stored by their respective packet transfer source apparatus in the

queue, and wherein the reassembler means reassembles the packet from the stored superpacket;

regarding claim 15, the forming means detects that the packet crosses a plurality of superpackets

and divisionally stores the packet in the plurality of superpackets, and the reassembler means

detects that the packet on the superpacket crosses a plurality of superpacket and links packet data

divisionally stored in the plurality of superpackets to reassemble the original packet generated by

the transmission-source access network (Fig. 9, 904, 906, 908, 910); regarding claim 17, wherein

a header of the superpacket has the same format as that of a header of the packet (Fig. 4);

regarding claim 18, an access network for transmitting/receiving a packet (124); relay means

(132) for relaying the packet; and a network (132) serving as a backbone for transferring a

superpacket (Fig. 4) having a length n times, n is an integer of not less than 2, larger than a fixed-

length cell, the superpacket serving as a switching unit of the relay means, wherein the packet

transfer apparatus (124) converts the packet into the superpacket and visa versa, and further

transfers the packet transmitted from a transmission-source access network (114) to a destination

access network (116) in a form of the superpacket (Fig. 4) through the relay means in the

network; regarding claim 19, wherein the packet transfer apparatus (124) and the relay means are

assigned unique network addresses (Fig. 4) defined only in the network, and network addresses

of packet transfer apparatuses are stored in a header of the superpacket as a transmission-source

address and destination address; regarding claim 20, wherein for superpackets (Fig. 4) having the

same destination packet transfer apparatus, different network addresses are assigned to

destination addresses in headers of the superpackets in accordance with a type of destination

access network connected to the destination packet transfer apparatus; regarding claim 21,

wherein the relay means comprises a route search table (Fig. 7) which stores a number of entries,

the number of entries at least corresponding to the numbers of the packet transfer apparatuses

and relay means, each of the entries making a destination address in a header of the superpacket

correspond to a relay destination of the superpacket, and route search means for searching the

route search table on the basis of the destination address in the header of the superpacket to

specify the relay destination of the superpacket; regarding claim 22, wherein for same network

flow through the relay means in the network, from the packet transfer apparatus connected to the

transmission-source access network (114) to the packet transfer apparatus (124) connected to the

destination access network (116), superpackets (Fig. 4) corresponding to the same network flow

have the same header. See column 3-9.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 4, 10, 11, 13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Vargo et al. (US 6,477,164) in view of Miller et al. (US 6,247,058).

Vargo et al. discloses the claimed limitations above. Vargo et al. does not disclose the

following features: regarding claim 4, causing the destination packet transfer apparatus to detect

for each transmission-source packet transfer apparatus that the packet is not reassembled for a

second time-out time, and if a superpacket is stored in association with the transmission-source

packet transfer apparatus without reassembly for the second time-out time, causing the

destination packet transfer apparatus to discard the superpacket; regarding claim 11, wherein the

first time-out time is determined on the basis of a predetermined allowable network delay time

for each traffic on the network; regarding claim 13, wherein the reassembler means comprises,

for each queue on the second storage means, second time count means for starting to count time

every time the packet is reassembled and for detecting an elapse of a second time-out from the

time count, and when the elapse of the second time-out time is detected, discards the superpacket

form in the queue; regarding claim 14, wherein the second time-out time is determined on the

basis of a predetermined minimum band or maximum allowable value of at least one of a

network delay for each traffic on the network, delay distribution time in the network, and

predetermined protection time.   Miller et al. discloses an apparatus for processing network

packets comprising the following features: regarding claim 4, causing the destination packet

transfer apparatus to detect for each transmission-source packet transfer apparatus that the packet

is not reassembled for a second time-out time (Fig. 9, 192), and if a superpacket is stored in

association with the transmission-source packet transfer apparatus without reassembly for the

second time-out time, causing the destination packet transfer apparatus to discard (Fig. 9, 200)

the superpacket (column 11, line 65 to column 12, line 15); regarding claim 11, wherein the first

time-out time is determined on the basis of a predetermined allowable network delay time for

each traffic on the network (column 6, line 59-64); regarding claim 13, wherein the reassembler

means comprises, for each queue on the second storage means, second time count means for

starting to count time every time the packet is reassembled and for detecting an elapse of a

second time-out from the time count, and when the elapse of the second time-out time is

detected, discards the superpacket form in the queue (Fig. 9); regarding claim 14, wherein the

second time-out time is determined on the basis of a predetermined minimum band or maximum

allowable value (column 11, line 65 to column 12, line 15) of at least one of a network delay for

each traffic on the network, delay distribution time (column 6, line 59-64) in the network, and

predetermined protection time. It would have been obvious to one of the ordinary skill in the art

at the time of the invention to modify the system of Vargo et al., by using the features, as taught

by Miller et al., in order to provide a reliable communication by reducing network congestion

and conserving network bandwidth. See Miller et al., column 4, lines 35-65.

Allowable Subject Matter

5.   Claim 16 is objected to as being dependent upon a rejected base claim, but would be

allowable if rewritten in independent form including all of the limitations of the base claim and

any intervening claims.

Response to Arguments

6.   Applicant's arguments filed 3/18/04 have been fully considered but they are not persuasive.

On page 14, first paragraph, Applicant argues that Vargo et al. fails to **improve the capacity of the switchbar section of the router**, which switches cells of the fixed length. (Emphasis added). Examiner respectfully disagrees with these arguments. It is noted that the preceding underlined features are not recited in the rejected claims. Therefore, it is respectfully submitted that these arguments are irrelevant with respect to the rejected claims.

On page 14, second paragraph, Applicant argues that Vargo et al. fails to teach the size of the packet 144 is larger than a fix-length cell; and fails to teach having the superpacket be a switching unit of the relay means. Examiner respectfully disagrees with these arguments. Clearly depicted in Fig. 4, Vargo et al. discloses the packet 144 is larger than a fix-length packet 402. Moreover, the packet 144 is serving as a switching unit of Transmux 124 (claimed relay means). See column 4, lines 25-44. Therefore, it is respectfully submitted that Vargo et al. does anticipate the claimed invention.

On page 14, third paragraph, Applicant argues that Vargo et al. fails to teach that a voice packet is larger than a fix-length cell and that the voice packet 144 is the switching unit of the relay means as opposed to conventional cells. Examiner respectfully disagrees with these arguments. Clearly depicted in Fig. 4, Vargo et al. discloses the packet 144 is larger than a fix-length packet 402 (the argued fix-length cell). Moreover, the packet 144 is serving as a switching unit of Transmux 124 (claimed relay means). See column 4, lines 25-44. Therefore, it is respectfully submitted that Vargo et al. does anticipate the claimed invention.

On page 15, first paragraph, Applicant argues that independent claims 7 and 8 contain similar to the features argued above with respect to claim 1; and for the same reason, Applicant submits that claims 7,18, 8-9, 12, 15, 17 are patentably distinguishable from Vargo et al. Examiner respectfully disagrees with these arguments. Clearly depicted in Fig. 4, Vargo et al. discloses the packet 144 is larger than a fix-length packet 402 (the argued fix-length cell). Moreover, the packet 144 is serving as a switching unit of Transmux 124 (claimed relay means). See column 4, lines 25-44. Therefore, it is respectfully submitted that Vargo et al. does anticipate the claimed invention.

On page 15, second paragraph, Applicant argues that Vargo et al.'s packets transmitted in the voice packet 144 are always smaller than the voice packet 144; that is, a single packet going to the same destination will never be split up over a number of voice packets 144. Examiner respectfully disagrees with these arguments. Clearly depicted in Fig. 4, Vargo et al. discloses the packet 144 is larger than a fix-length packet 402 (the argued fix-length cell). Moreover, the packet 144 is serving as a switching unit of Transmux 124 (claimed relay means). See column 4, lines 25-44. Therefore, it is respectfully submitted that Vargo et al. does anticipate the claimed invention.

On page 16, first paragraph, Applicant argues that Vargo et al. do not meet all the requirements of independent claims 1 and 7; and Miller et al. is relied upon only for its teaching of time-outs. The combined teachings of these references would not have led the artisan of ordinary skill in the art to have achieved the claimed subject matter. Examiner respectfully disagrees with these arguments. As described above, Vargo et al. does anticipate the claimed invention recited in claims 1 and 7. Moreover, Miller et al. discloses the claimed features of time

outs. Therefore, it is respectfully submitted that Vargo et al. and Miller et al. would have been

obvious to arrive the claimed invention.

Conclusion

7.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing
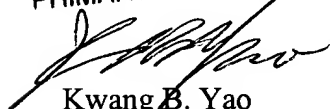
date of this final action.

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kwang B. Yao whose telephone number is 703-308-7583. The

examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chi H Pham can be reached on 703-305-4378. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KWANG BIN YAO
PRIMARY EXAMINER

Kwang B. Yao
May 22, 2004